AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-11. (Cancelled).

12. (New) An apparatus for molding a mold by pressurizing a foam mixture and injecting it into a cavity of a heated metal mold, the apparatus comprising:

a base,

a plurality of cylinders having piston rods arranged vertically and disposed on the base,

four guide rods disposed at four respective corners of the base,

a lifting and lowering frame disposed at tops of the piston rods of the cylinders, and slidably connected to the four guide rods so that the lifting and lowering frame can be lifted and lowered by the cylinders and guided by said rods,

a horizontally separable heated metal mold having a cavity, a lower part of the horizontally separable metal mold being disposed on the lifting and lowering frame, and an upper part of the horizontally separable metal mold being connected to a support mechanism slidably connected to the guide rods,

an upper frame disposed on tops of the four guide rods, and extending in right and left directions,

a means for containing a foam mixture having the function of a mixing bath to mix the foam mixture, and acting as a pressurizable vessel for injecting the foam mixture into the cavity of the metal mold, the means for containing the foam mixture having a

hollow rectangular-parallelepiped body having a bottom plate, the bottom plate having a hole through which the foam mixture can be injected,

a mixing fan mechanism disposed on the upper frame, which upper frame is located above the means for containing the foam mixture, wherein the mixing fan mechanism has a mixing fan and can be lifted and lowered by a cylinder so that the mixing fan of the mechanism can be moved into and out of the means for containing the foam mixture,

a means for closing and opening the hole of the bottom plate,

a first carriage for moving the means for containing the foam mixture to a position above the upper part of the metal mold,

a pressurizing mechanism for pressurizing the foam mixture in the means for containing the foam mixture to inject the foam mixture into the cavity of the metal mold through the hole in the bottom plate to form a mold in the cavity,

a mechanism for pushing the mold out of the metal mold having pins for pushing the mold out, which pins are inserted into the upper part of the metal mold after molding the mold in the metal mold, and

a second carriage for moving the mechanism for pushing the mold out from a position above the metal mold to a position apart from the metal mold.

13. (New) The apparatus according to claim 12, further including

a means for measuring a temperature of particles of aggregate of the foam mixture or of the foam mixture, and

a means for measuring a moisture content of the foam mixture.

14. (New) The apparatus according to claim 13, further including a means for measuring a viscosity of the foam mixture.

15. (New) The apparatus according to either claim 13 or 14, wherein the means for measuring the temperature is a contact- or noncontact-type thermo-sensor and is disposed in the means for containing the foam mixture or outside of the means for containing the foam mixture.

16. (New) The apparatus according to claim 14, wherein the means for measuring the viscosity is any one of:

a sensor that presses and inserts a probe for measuring viscosity by measuring a load when a top of the probe is press fitted into the foam mixture,

a sensor that rotates a probe for measuring viscosity by measuring a load when a top of the probe is rotated in the foam mixture,

a sensor that presses, inserts, and rotates a probe for measuring viscosity by measuring a load when a top of the probe is inserted in the foam mixture and is then rotated in the foam mixture, and

a sensor that measures apparent viscosity by measuring a flow rate of the foam mixture flowing from an opening of a cylindrical structure when the foam mixture is pressurized.

17. (New) The apparatus according to claim 16, wherein the means for measuring the viscosity is disposed in the means for containing the foam mixture or outside of the means for containing the foam mixture.

18. (New) The apparatus according to claim 16, wherein the means for measuring the viscosity of the foam mixture measures continuously or measures each batch of the foam mixture.

19. (New) The apparatus according to either claim 13 or 14, wherein the means for measuring the moisture content is either

a sensor for measuring an electrical resistance of the foam mixture, or

a sensor for measuring a weight loss of the foam mixture when the moisture is evaporated by heating the foam mixture.

20. (New) The apparatus according to claim 12, further including a means for communicating gases from the cavity of the metal mold to an outside of the mold.